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EXAMINER

PHAM, TUAN

ART UNIT

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2618

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,795	Applicant(s) SHIFF ET AL.	
	Examiner TUAN A. PHAM	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-11 and 13-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8- 11, 22 and 24 is/are rejected.
- 7) ☒ Claim(s) 13-21, 23 and 25-33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-6, 8-11 and 13-33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear how “an antenna device” recited in lines 18 relates to “antenna device” recited in lines 7, 10, 13 and 15? For the purpose of the examining, the examiner will consider “an antenna device” is the same with the antenna device as recited in lines 7, 10, 13 and 15.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6, 8, 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sung-Joon Moon (WO 03/013025A1) in view of Lovinggood et al. (US Patent No.: 6,934,511, hereinafter, "Lovinggood") and further in view of Lastinger et al. (US Pub. No.: 2005/0003763, hereinafter, "Lastinger").

Regarding claim 1, Sung-Joon Moon teaches an apparatus serving as an indoor communications wireless distribution system to communicate with wireless communications devices located within an internal space of a structure, the apparatus comprising (see figure 1, abstract):

a radio base station or a repeater device comprising an external antenna and a bidirectional amplifier (see figure 1, abstract, antenna 1-11, 1-12, page 6);

at least one internally installed antenna device adapted to receive and transmit via the radio base station or repeater device (see figure 1, repeater 300, antenna 2-11, 2-12).

It should be noticed that Sung-Joon Moon fails to teach a central control unit interfacing between the radio base station or repeater and the antenna device.

However, Lovinggood teaches a central control unit interfacing between the radio base

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station or repeater and the antenna device (see figure 5, it is obvious to move the controller 210 to a different location).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lovinggood into view of Sung-Joon Moon in order to easily replace the controller if the controller failing.

Sung-Joon Moon and Lovinggood, in combination, fails to teach central control unit for detecting and reducing interference within the indoor wireless network; at least one antenna attenuation control unit coupled to a respective antenna device for interfacing between the respective antenna device and the central control unit, and for controlling the attenuation of the respective antenna device, wherein said central control unit is adapted to identify interference originating from an antenna device, and to instruct the coupled antenna attenuation control unit to attenuate transmissions from the interfering antenna device. However, Lastinger teaches central control unit for detecting and reducing interference within the wireless network (see figure 72, processor 262, [0153, 0157, 0168, 0172-0173]); at least one antenna attenuation control unit coupled to a respective antenna device for interfacing between the respective antenna device and the central control unit (see figure 71, attenuator module 296, antenna 246, processor 262, [0153, 0157, 0168, 0172-0173]); and for controlling the attenuation of the respective antenna device, wherein said central control unit is adapted to identify interference originating from an antenna device, and to instruct the coupled antenna attenuation control unit to attenuate transmissions from the interfering antenna device

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(see figure 72, [0153, 0157, 0168, 0172-0173], it is clearly seen that the processor detect the interference and control the attenuator 296 for reduce the interference).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Lastinger into view of Sung-Joon Moon and Lovinggood in order to reduce the interference for the system.

Regarding claim 2, Sung-Joon Moon further teaches the repeater device is a bi-directional amplifier mini-repeater (see figure 1, repeater 300).

Regarding claim 3, Lastinger further teaches omni-directional antenna (see [0147]).

Regarding claim 4, Sung-Joon Moon further teaches an at least one repeater attached to the at least one antenna attenuation control unit for enhancing the broadcast of the at least one internally installed antenna associated with the at least one antenna attenuation control unit (see figure 1, repeater 300, attenuator 2₂₁, pages 6-8).

Regarding claim 5, Lovinggood further teaches the central control unit is adapted to detects the source antenna of the interference by sampling at least one uplink signal (see figure 5, interference canceller 208 detect interference of uplink signal).

Regarding claim 6, Lastinger further teaches the central control unit is adapted to commanding the at least one antenna attenuation control unit to attenuate the signal strength received from the associated antennas device (see figure 72, [0153, 0157, 0168, 0172-0173], it is clearly seen that the processor detect the interference of each antenna and control the attenuator 296 for reduce the interference).

Regarding claim 8, Lastinger further teaches the central control unit is adapted to reduces or eliminates the interference by commanding the at least one antenna attenuation control unit to disconnect or lower the level of transmission of the associated at least one internally installed antenna device (see figure 72, [0153, 0157, 0168, 0172-0173], it is clearly seen that the processor detect the interference of each antenna and control the attenuator 296 adjust the level of transmission or reception).

Regarding claim 11, Lastinger further teaches the central control unit is adapted to issue at least one command signal to the at least one antenna attenuation control unit for disconnecting or attenuating the at least one internally installed antenna device (see figure 72, [0153, 0157, 0168, 0172-0173], it is clearly seen that the processor detect the interference of each antenna and control the attenuator 296 adjust the level of transmission or reception).

Regarding claim 22, Lastinger further teaches an interference detection unit for the detection of interferences in an uplink signal (see figure 72, [0153, 0157, 0168, 0172-0173], it is clearly seen that interference detection unit includes in Lastinger's system).

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sung-Joon Moon (WO 03/013025A1) in view of Lovinggood et al. (US Patent No.: 6,934,511, hereinafter, "Lovinggood") and further in view of Lastinger et al. (US Pub. No.: 2005/0003763, hereinafter, "Lastinger") as applied to claim 1 above, and further in view of Stewart (US Patent No.: 4,878,729).

Regarding claim 9, Lovinggood teaches a coupler to identify the interference signal (see figure 13, coupler 572). Sung-Joon Moon, Lovinggood and Lastinger, in combination, fails to teach the central control unit includes a coupler device that is adapted to sample signals without interfering with the transferred signal, thereby identifying the blocking of the transmission frequencies or an interference signal that is not a wireless signal. However, Stewart teaches the central control unit includes a coupler device that is adapted to sample signals without interfering with the transferred signal, thereby identifying the blocking of the transmission frequencies or an interference signal that is not a wireless signal (see col.11, ln.5-6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Stewart into view of Sung-Joon Moon, Lovinggood and Lastinger in order to reduce the interference for the system.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sung-Joon Moon (WO 03/013025A1) in view of Lovinggood et al. (US Patent No.: 6,934,511, hereinafter, "Lovinggood") and further in view of Lastinger et al. (US Pub. No.: 2005/0003763, hereinafter, "Lastinger") as applied to claim 1 above, and further in view of Schulz et al. (US Pub. No.: 2002/0039415, hereinafter, "Schulz").

Regarding claim 10, Sung-Joon Moon, Lovinggood and Lastinger, in combination, fails to teach the central control unit is adapted to samples signals and identify non-wireless signals generating interference. However, Schulz teaches the

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central control unit is adapted to samples signals and identify non-wireless signals generating interference (see figure 1, noise level calculator 13, [0001]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Schulz into view of Sung-Joon Moon, Lovinggood and Lastinger in order to reduce the interference for the system.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sung-Joon Moon (WO 03/013025A1) in view of Lovinggood et al. (US Patent No.: 6,934,511, hereinafter, "Lovinggood") and further in view of Lastinger et al. (US Pub. No.: 2005/0003763, hereinafter, "Lastinger") as applied to claim 1 above, and further in view of Smith (US Pub. No.: 2003/0021367).

Regarding claim 24, Sung-Joon Moon, Lovinggood and Lastinger, in combination, fails to teach an intermediate frequency surface acoustic wave filter unit adapted to determine spectral energy distribution of a noise signal in a specific frequency band; at least one band width intermediate frequency band pass filter; and a multiplexer unit. However, Smith teaches an intermediate frequency surface acoustic wave filter unit adapted to determine spectral energy distribution of a noise signal in a specific frequency band; at least one band width intermediate frequency band pass filter; and a multiplexer unit (see figure 2a, [0056, 0058, 0181]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Smith into view of Sung-

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Joon Moon, Lovinggood and Lastinger in order to reduce the interference for the system.

Allowable Subject Matter

9. Claims 13-21, 23 and 25-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is

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(571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:30 AM-5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TUAN A PHAM/

Primary Examiner, Art Unit 2618